What is claimed is:

1. In a system for controlling operation of a clutch engageable for connecting a PTO of a vehicle in rotatably driven relation to a rotating power source of the vehicle, the clutch including an input coupled to the power source and an output coupled to the PTO, the system comprising a controller for controlling an engagement pressure of the clutch, wherein the clutch will transmit a maximum torque between the input and output in response to a maximum clutch engagement pressure as controlled by the controller and will transmit a range of torque values between zero and the maximum torque in response to a range of clutch engagement pressures less than the maximum clutch engagement pressure, the system including sensors for sensing a rotational speed representative of a rotational speed of the power source and of a rotational speed of the output, respectively, and outputting speed signals representative of the sensed speeds to a processor of the controller operable for storing and retrieving information in a memory and outputting control signals to the clutch for controlling the clutch engagement pressure responsive to the speed signals and information contained in the memory, an improved method of engaging the clutch comprising the step of:

(a) determining a starting control signal value for controlling the clutch engagement pressure based at least in part on information stored in the memory relating to when the clutch first began to carry torque during at least one prior engagement of the clutch.

2. In the system of claim 1, the improvement comprising further steps during the engagement of the clutch of:

(b) determining an initial rotational speed of the power source under a zero torque transmission condition of the clutch; and

(c) sensing rotational speeds representative of the speed of the power source and of the output, respectively, as the control signal value is increased from the starting value and comparing the sensed rotational speeds representative of the speed of the power source with the initial rotational speed of the power source, and storing information representative of the control signal value in the memory for use in step (a) for a subsequent engagement of the clutch, when a first of the following conditions occurs:

(i) the sensed speed representative of the speed of the power source is more than a predetermined amount less than the initial rotational speed, and

(ii) the PTO output begins to rotate.

3. In the system of claim 2, the improvement comprising a further step of:

(d) altering a rate of increase of the clutch engagement pressure responsive to the information stored in the memory in step (c).

4. In the system of claim 3, the improvement further comprising in step (d), altering the rate of increase of the clutch engagement pressure by decreasing the rate.

5. In the system of claim 3, the improvement further comprising in step (d), altering the rate of

increase of the clutch engagement pressure by increasing the rate.

6. In the system of claim 2, the improvement further comprising in step (a) determining the starting control signal value for controlling the clutch engagement pressure based at least in part on information stored in the memory in step (c) during a plurality of previous engagements of the clutch.

7. In the system of claim 6, the improvement comprising in step (a) determining the starting control signal value for controlling the clutch engagement pressure based at least in part on an average of control signal values stored in memory in step (c).

8. In the system of claim 2, the improvement comprising in step (c)(i), the predetermined amount less than the initial rotational speed representing a droop condition of the power source.

9. A system for controlling operation of a clutch engageable for connecting a PTO of a vehicle in rotatably driven relation to a rotating power source of the vehicle, the clutch including an input coupled to the power source and an output coupled to the PTO, the system comprising:

a controller for controlling an engagement pressure of the clutch, including a processor operable for storing and retrieving information in a memory and outputting control signals to the clutch for controlling the clutch engagement pressure responsive to the speed signals and information contained in the memory, wherein the clutch will transmit a maximum torque between the input and output in response to a maximum clutch

engagement pressure as controlled by the control, and the clutch will transmit a range of torque values between zero and the maximum torque in response to a range of clutch engagement pressures less than the maximum clutch engagement pressure and conditions including a load condition on the PTO;

a sensor for sensing a rotational speed representative of a rotational speed of the power source and outputting a speed signal representative thereof to the controller; and

a sensor for sensing a rotational speed of the output and outputting a speed signal representative thereof to the controller;

wherein after the clutch has been previously engaged at least once, the processor will determine a value for a starting control signal for controlling a starting clutch engagement pressure based at least in part on information representative of a previous condition of the clutch stored in the memory.

10. The system of claim 9, wherein the information representative of the previous condition includes information relating to at least one control signal value when the clutch began to carry torque during at least one previous engagement.

11. The system of claim 10, wherein the information relating to the at least one control signal value when the clutch began to carry torque, comprises a time value for when the clutch began to carry torque.

12. The system of claim 10, wherein the information relating to the at least one control signal value when the clutch began to carry torque, comprises an average of the control signal values for when the

clutch began to carry torque during a plurality of previous engagements.

13. The system of claim 10, wherein the information relating to the at least one control signal value when the clutch began to carry torque, comprises the control signal value for when the clutch began to carry torque during an immediately preceding engagement.

14. In a system for controlling operation of a clutch engageable for connecting a PTO of a vehicle in rotatably driven relation to a rotating power source of the vehicle, including a controller for controlling an engagement pressure of the clutch including a processor operable for storing and retrieving information in a memory and outputting control signals to the clutch for controlling the clutch engagement pressure responsive to the speed signals and information contained in the memory, the clutch including an input coupled to the power source and an output coupled to the PTO, wherein the clutch will transmit a maximum torque between the input and output in response to a maximum clutch engagement pressure as controlled by the controller, and the clutch will transmit a range of torque values between zero and the maximum torque in response to a range of clutch engagement pressures less than the maximum clutch engagement pressure and a load condition on the PTO, the system including sensors for sensing a rotational speed representative of a rotational speed of the power source and of a rotational speed of the output, respectively, and outputting speed signals representative of the sensed speeds to the controller, an improved method of operation of the clutch comprising the steps of:

(a) commencing to increase the clutch engagement pressure from a starting value determined based on calibration information stored in the memory;

(b) determining an initial rotational speed of the power source under a zero torque transmission condition of the clutch; and

(c) sensing rotational speeds representative of the speed of the power source and of the output as the clutch engagement pressure is increased from the starting value, and storing in the memory information representative of occurrence of a first of the following conditions:

(i) sensing a speed representative of the speed of the power source which is more than a predetermined amount less than the initial speed; and

(ii) sensing rotation of the PTO output.

15. In the system of claim 14, the improvement further comprising the step of:

(d) determining new calibration information based at least in part on the information stored in the memory in step (c).

16. In the system of claim 15, the improvement further comprising in step (d) determining the new calibration information based at least in part on information stored in the memory in step (c) during a plurality of previous engagements.

17. In the system of claim 16, the improvement comprising in step (d) determining the new calibration information based at least in part on an average of values of the information stored in the memory in step (c) during the plurality of previous engagements.

18. In the system of claim 17, the improvement comprising in step (d) determining the new calibration information based at least in part on an average of values of the information stored in the memory in step (c) during four previous engagements.

19. In the system of claim 15, the improvement comprising in step (d) determining the new calibration information based at least in part on an average of a plurality of previously determined values if a value relating to the information stored in the memory in step (c) is within a predetermined range of the predetermined values, and determining the new calibration information based only on the information stored in the memory in step (c) if the information stored in the memory in step (c) is beyond the predetermined range of values.

20. In the system of claim 14, the improvement comprising in step (c)(i), the predetermined amount less than the initial speed representing a droop condition of the power source.